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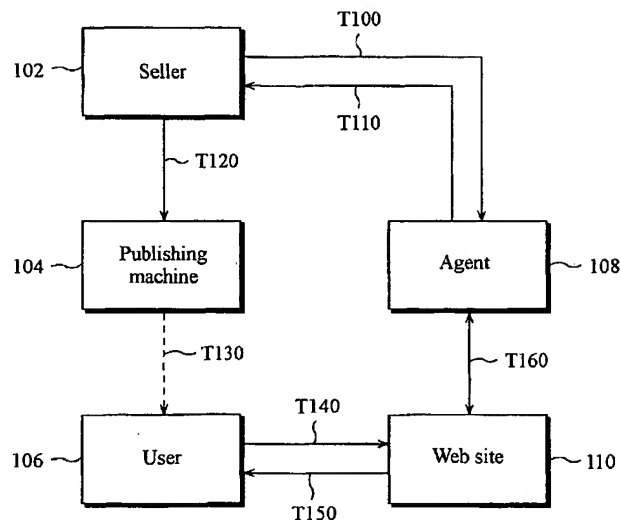
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(54) Title: METHOD AND SYSTEM FOR GENERATING TEMPORARY IDENTIFICATION AND PASSWORD AND ACCESSING WEB SITE BY USING THE SAME



(57) Abstract: A method and a system to create and manage a temporary ID and password, and access a desired web site through a communication network by using the temporary ID and password. The system comprises an agent for creating the ID and password, and a communication network. The agent includes a database for storing data related to the ID and password, a database engine embodied on computer-readable media, for classifying, retrieving, and reading the data stored on the database, and a web server having a processing engine. The method comprises the steps of receiving an authentication request for the temporary ID and password; determining whether the temporary ID and password are valid in response to the authentication request; providing the authentication result; and permitting user's log-in based on the authentication result.

**METHOD AND SYSTEM FOR GENERATING TEMPORARY
IDENTIFICATION AND PASSWORD
AND ACCESSING WEB SITE BY USING THE SAME**

5 TECHNICAL FIELD

 The present invention relates to a method and a system for accessing web sites through a communication network, and more particularly, to a method and a system for creating and managing a temporary identification (ID) and password, and
10 accessing desired web sites through a communication network by using the temporary ID and password.

BACKGROUND ART

15 Recently, the use of a communication network, such as the Internet, which provides easy and handy access to desired information, has become widespread due to the rapid development of the communication technologies. From time to time, in the Internet environment, users are required to become a member of certain web sites in order to obtain authorized access to valuable information and/or services provided
20 by those web sites or to communicate with other users through the Internet. However, the user has to go through the process of inputting his personal information, such as an ID, password, name, resident registration number, address, e-mail address, credit card number, and so forth, before he successfully becomes subscribed to the web sites. In such cases, the personal information of the user could be disclosed,
25 stolen, or misappropriated by other persons. Moreover, after a user becomes a member of many web sites, he has to remember each of the IDs and passwords for the web sites.

 Therefore, there is a need in the art for a method and a system that can create and manage a temporary ID and password to be used for accessing a web site,
30 thereby eliminating the need to disclose the user's personal information.

DISCLOSURE OF THE INVENTION

 It is, therefore, an objective of the present invention to provide a method and
35 a system designed to solve the mentioned problems and to create and manage a temporary ID and password to be used for accessing a desired web site through a

communication network by using the temporary ID and password.

In accordance with one aspect of the present invention, there is provided a method for creating an identification (ID) and password in an agent, wherein the agent is interconnected with a plurality of users through a communication network, comprising the steps of: a) receiving one or more creating conditions for each of the users through the communication network; and b) creating the temporary ID and password corresponding to the creating conditions for each user.

In accordance with another aspect of the present invention, there is provided a system for creating an ID and password whose validity period is predetermined, wherein a user accesses a desired web site by using the ID and password, comprising: an agent for creating the ID and password; and a communication network for interconnecting with the agent, the user, and the web site.

In accordance with still another aspect of the present invention, there is provided a method for accessing at least one of web sites by using an ID and password whose validity period is predetermined in a system interconnected with an agent including a database and a database engine, a plurality of users, and the web sites through a communication network, comprising the steps of: a) receiving, in the agent, a request for authenticating the ID and password of each user from one of the web sites that each user tries to access; b) retrieving, in the agent, the ID and password from an ID and password list stored on the database through the database engine; c) determining, in the agent, whether the retrieved ID and password are valid; d) providing, in the agent, an authentication result of the ID and password to the web site requesting the authentication of the ID and password, if the ID and password are valid; and e) permitting, in the web site, in response to the authentication, the user access.

BRIEF DESCRIPTION OF THE DRAWINGS

The above and other objects and features of the present invention will become apparent from the following description of preferred embodiments given in conjunction with the accompanying drawings.

Fig. 1 is a diagram of a method for creating a temporary identification (ID) and password, and accessing a web site by using the temporary ID and password in accordance with the present invention.

Fig. 2 is a schematic block diagram of a system for implementing the method of Fig. 1.

Fig. 3 is a flow diagram of a process of publishing a card containing a temporary ID and password in accordance with the present invention.

Figs. 4A and 4B are flow diagrams of a process performed by an agent, when a user accesses a desired web site by using the temporary ID and password in accordance with the present invention.

BEST MODE FOR CARRYING OUT THE INVENTION

Referring to Fig. 1, a process of creating and using a temporary ID and password occurs among entities consisting of a seller 102, a publishing machine 104, a user 106, an agent 108, and a web site 110. Seller 102 may be any one of a convenience store, supermarket, lottery ticket store, and the like, where user 106 would frequently visit in a daily life. Agent 108 performs a function for creating and managing a temporary ID and password to be sold to user 106. The process of Fig. 1 will be discussed in detail with reference to Figs. 3 to 4B, below.

The process starts at transaction T100 where seller 102 requests agent 108 to create and authenticate a temporary ID and password. In response to the request from seller 102, agent 108 creates a temporary ID and password by using an ID and password generating engine (not shown) within agent 108 and sets a validity period for the created temporary ID and password. Alternatively, agent 108 may select an ID and password from those IDs and passwords that had been previously created and stored at a predetermined location in agent 108 instead of newly creating IDs and passwords. The temporary ID and password as created are registered on a list stored at a predetermined location in agent 108. Agent 108 then transmits to seller 102 the created temporary ID and password via transaction T110.

At transaction T120, seller 120 transmits to publishing machine 104 the temporary ID and password received from agent 108. Publishing machine 104 prints an ID card with the received ID and password and sells it to user 106 at transaction T130. The ID card can be made in the form of, e.g., an instant lottery and the portion having an ID and password printed thereon may be coated with an opaque material.

At transaction T130, controlling accessible web sites depending on the age of user 106 is possible, because seller 102 can identify the age of user 106 at the time of selling the ID card. Specifically, if seller 102 offers information concerning the age of user 106 to agent 108, agent 108 determines whether or not user 106 is under age based on that information. If user 106 is a juvenile, the temporary ID and

password may only be used to access web sites that the juvenile's access is not barred. Otherwise, agent 106 provides to seller 102 a temporary ID and password capable of accessing all web sites in cooperation with agent 108. As a result, juvenile users may be efficiently prevented from accessing inappropriate web sites.

5 At transaction T140, after purchasing the ID card from seller 102, user 106 logs onto web site 110 by using the temporary ID and password printed on the ID card. At transaction T160, web site 110 requests agent 108 to authenticate the temporary ID and password received from user 106. In response, agent 108 transmits an authentication or denial of the temporary ID and password to web site
10 110. At transaction T150, on the basis of that result, web site 110 decides whether or not to permit user access.

 According to one embodiment of the present invention, seller 102 and agent 108 may be the same entity. The skilled person in the art will fully understand that in such case transactions T100 and T120 would not be necessary. Further,
15 according to another embodiment of the present invention, seller 102, agent 108, and web site 110 may be implemented as one unit. In this case, transactions T100, T130, and T160 described above will be performed within that one unit.

 Referring to Fig. 2, a system for implementing the method of Fig. 1 is shown. System 200 comprises user 106, seller 102, a plurality of web sites 110, and
20 agent 108, interconnected together through a network 204. For the simplicity and convenience, web sites 110 will be simply called web site 110, hereinafter.

 Agent 108 includes a web server 210, a database engine 220, and a database 230. Web server 210 controls database engine 220 and database 230, and has a processing engine (not shown) performing the creation and authentication of a
25 temporary ID and password, and transactions related thereto. Database engine 220 systematically classifies, stores, and manages data on database 230, according to instructions from web server 210. Database engine 220 may be a program implemented on a computer-readable medium or a firmware. Although web server 210 and database engine 220 are shown in Fig. 2 as separate components of agent
30 108, that is only an example of the present invention. The skilled person in the art will fully understand that the present invention is not limited thereto, e.g., database engine 220 may be implemented on web server 210.

 Database 230 is divided into a connection hour database 232, a temporary ID and password database 234, a user account database 236, a billing database 238,
35 and a cooperative web site database 240. Connection hour database 232 stores data related to session start and termination times, after user 106 logs onto web site 110.

Temporary ID and password database 234 stores a list of temporary IDs and passwords being used or to be used. The list is categorized according to the sort of web sites that user 106 can access. For example, the temporary ID and password enrolled on the list is classified at the time of the creation, depending on creating
5 conditions, such as the sort of web sites, e.g., education, shopping, entertainment, and the like, that can be accessed by user 106, and a usable amount of money.

User account database 236 stores data related to an account for user 106 and a usable amount of money for the ID card, which user 106 purchases from seller 102. In the case that agent 108 authenticates a temporary ID and password of user 106, an
10 account for user 106 is opened and a usable amount of money is deposited in the opened account. When user 106 pays a fee billed from web site 110, under the control of web server 210 of agent 108, the money corresponding to the fee is paid from the usable amount of money and the data related to the usable amount of money is updated with the balance to be stored on user account database 236.

Billing database 238 stores billing data received from web site 110. As mentioned above, agent 108 instead of user 106 settles the fee to web site 110 with reference to the billing data. Agent 108 receives a bill for user 106 from web site 110. Then, agent 108 settles the bill in real-time by balancing money corresponding to the bill from the account opened in user account database 236 and remitting the
20 same to web site 110. Alternatively, agent 108 could settle the bill with web site 110 at a predetermined settlement day. In this case, after storing the billing data classified on billing database 238, agent 108 settles the bill with web site 110 at the predetermined settlement day based on the billing data stored. This settling procedure described above may be realized according to well known techniques and
25 processes in the art.

Cooperative web site database 240 stores a list of web sites in corporation with agent 108. The web sites enrolled on the list are classified depending on the contents provided from the web sites, e.g., education, shopping, and entertainment, and the like.

30 Network 204 interconnects with web site 110, user 106, seller 102, and agent 108, and is a wire/wireless communication network including a conventional wire/wireless Internet.

Referring to Fig. 3, at step S302, agent 108 receives from seller 102 a request for creating and authenticating a temporary ID and password to be printed on
35 the ID card. Agent 108 also receives from seller 102 creating conditions about the temporary ID and password. User 106 is able to purchase an ID card including a

temporary ID and password capable of accessing all of the web sites in cooperation with agent 108, or an ID card including a temporary ID and password capable of accessing only web sites selected by user 106. In case that user 106 selects desired web sites, the number of the selected web sites may be one of the creating conditions.

5 Also, the age of user 106 may be one of the creating conditions, wherein the age is inputted when user 106 selects the desired web sites. The selling price of the ID card may be dependent on the number of selected web sites and the age of user 106. Further, the usable amount of money determined by user 106 may be one of the creating conditions.

10 At step S304, agent 108 retrieves temporary IDs and passwords corresponding to the received creating conditions from temporary ID and password database 234.

At step S306, agent 108 determines whether or not it will newly create a temporary ID and password based on the retrieved result at step S304. In the case
15 of receiving the request for the creation and authentication from seller 102, agent 108 may randomly create the temporary ID and password or select one of the available temporary IDs and passwords, which were created and used in the past but can be currently used. This has the advantage of reducing the quantity of data to be stored on database 230 and effectively increases the entire process speed responding to the
20 request for the creation and authentication of the temporary ID and password described above. However, the present invention may newly create a temporary ID and password for every request for the creation and authentication.

If the temporary ID and password has to be newly created, the inventive procedure proceeds to step S310. At step S310, agent 108 creates a temporary ID
25 and password corresponding to the creating conditions received from seller 102 through the ID and password creating engine and proceeds to step S312. The ID and password creating engine may be implemented with a conventional program for creating random numbers.

If temporary IDs and passwords corresponding to the creating conditions are
30 retrieved from database 230 at step S304, the inventive procedure proceeds to step S308 through step S306. At step S308, agent 108 selects one of the retrieved temporary IDs and passwords and goes to step S312.

At step S312, agent 108 transmits to seller 102 the temporary ID and password created at step S310 or selected at step S308 and performs an
35 authentication on the transmitted temporary ID and password. As described with reference to Fig. 1, seller 102 publishes an ID card including the temporary ID and

password authenticated from agent 108 through publishing machine 104 to sell to user 106.

At step S314, agent 108 classifies and registers the temporary ID and password transmitted to seller 102 on the list of temporary ID and password database 234 to terminate the inventive procedure.

Referring to Figs. 4A and 4B, at step S402, agent 108 receives from a server (not shown) of web site 110 an authentication request for a temporary ID and password, which is used by user 106 to log onto web site 110. Web site 110 is one of web sites in cooperation with agent 108. In case that the temporary ID and password used for the logging is not an ID and password managed by web site 110, web site 110 requests agent 108 to perform the authentication on the temporary ID and password. This temporary ID may have a form, which is easily distinguished from the ID and password managed by web site 110, e.g., beginning with the characters "**," which may be negotiated between agent 108 and web site 110.

At step S404, agent 108 retrieves through database engine 234 a temporary ID and password whose authentication is requested from web site 110, based on the list in temporary ID and password database 234.

At step S406, agent 108 determines whether the temporary ID and password whose authentication is requested by web site 110 is valid, based on the result at step S404. In case that the temporary ID and password do not exist on the list or has been expired, agent 108 proceeds to step S408 and notifies to the server of web site 110 that the authentication request for that temporary ID and password is denied. Agent 108 proceeds through tap B to terminate the inventive procedure.

Otherwise, if the temporary ID and password exist on the list and are available, the inventive procedure proceeds from step S406 to step S410 and performs the authentication on the temporary ID and password to transmit the result to the server of web site 110. Further, agent 108 provides the server of web site 110 with additional data related to the authenticated temporary ID and password, e.g., usable time and usable amount of money, which are necessary for user 106 to access web site 110 and use the offered services.

At step S412, agent 108 receives from the server of web site 110 billing information, a session start time for user 106 logging onto web site 110, and the like. Then, agent 108 classifies and stores them through database engine 220 on a corresponding database among connection hour database 232, user account database 236, billing database 238, and cooperative site database 240.

At step S414, agent 108 continuously monitors connection hours and billing

status related to user 106 based on report data periodically received from the server of web site 110, wherein the report data contains data related to the connection hours and the billing status.

At step S416, agent 108 determines whether it is time to invalidate the temporary ID and password based on the monitoring result at step S414. In case that the temporary ID and password being used by user 106 is available, the inventive procedure returns to step S414 to perform the operation described above. Otherwise, if it is time to invalidate the temporary ID and password, the inventive procedure proceeds to step S418 of Fig. 4B through tap A.

At step S418, agent 108 determines whether a request for extending the validity period of the temporary ID and password (e.g., a usable time and/or usable period) and increasing the usable amount of money related thereto, has been made based on the received request from the server of web site 110. The validity period may be extended by adding a predetermined validity period of an ID card of user 106, which was purchased but not used, to the validity period of the temporary ID and password being currently used, thereby extending the validity period by predetermined amounts.

In detail, in case that user 106 logs onto web site 110 by using a temporary ID and password printed on one of the ID cards purchased by user 106, when the validity period expires, user 106 inputs a new temporary ID and password printed on a different ID card to extend the expired validity period of the temporary ID and password by the predetermined validity period of the new temporary ID and password, without logging out of web site 110, which user 106 is currently accessing. Similar to the manner described above, a predetermined usable amount of money related to the temporary ID and password may be increased.

During this procedure, agent 108 allows user 106 to request the extension and/or increase of the validity period and/or the usable amount of money related to the temporary ID and password. In case that user 106 requests the extension and/or increase through web site 110, agent 108 proceeds to step S420 to receive from the server of web site 110 a new temporary ID and password inputted by user 106.

If the determination result is negative at step S418, agent 108 goes to step S428 to invalidate the temporary ID and password being used and update data related to the temporary ID and password. And, at step S430, agent 108 notifies the invalidation of the temporary ID and password being used to the server of web site 110 that user 106 logs onto, to thereby terminate the inventive procedure. In response, the server of web site 110 informs user 106 that it will not provide

information and services any more, and denies further access from user 106.

At step S422, agent 108 determines whether the new temporary ID and password are valid based on the list stored on temporary ID and password database 234. In case that the new temporary ID and password are not valid, agent 108
5 proceeds to step S428 to perform the operation described above. Otherwise, if the new temporary ID and password are valid, then agent 108 goes to step S424.

At step S424, agent 108 updates database 230 with data related to the new temporary ID and password through database engine 220, and proceeds to step S426.

At step S426, agent 108 transmits the updated data to the server of web site
10 110 and the procedure returns to step S414 of Fig. 4A through tap C to perform the operation described above.

As described above with reference to Figs. 1 and 4B, agent 108 is separate from web site 110. However, the skilled person in the art will fully understand that agent 108 could be realized as part of web site 110. Without registering personal
15 information of user 106, that user 106 can access web site 110 by using the temporary ID and password, because web site 110 may be equipped with the functions of agent 108, is apparent.

INDUSTRIAL APPLICABILITY

20

In accordance with the present invention, the drain of personal information may be blocked. The user is provided with the convenience that the user need not remember and manage multiple IDs and passwords, in order to access web sites. Further, juveniles may be prevented from accessing inappropriate web sites by only
25 selling the ID card to a user after identifying the age of the user.

While particular embodiments of the present invention have been shown and described, that changes and modifications may be made without departing from this invention in its broader aspects will be obvious to those skilled in the art, and
30 therefore, the appended claims are provided to cover all such changes and modifications, as fall within the true spirit and scope of this invention.

CLAIMS

1. A method for creating an identification (ID) and password in an agent,
wherein the agent is interconnected with a plurality of users through a
5 communication network, comprising the steps of:
a) receiving one or more creating conditions for each of said users through
the communication network; and
b) creating the temporary ID and password corresponding to said creating
conditions for each user,
10 wherein said creating conditions include at least one of a category of a web
site, the number of web sites that said each user tries to access, and an age of said
each user.
2. The method of Claim 1, further comprising:
15 c) registering the created ID and password on a list stored in a
predetermined location of the agent.
3. The method of Claim 1, wherein a validity period of the created temporary
ID and password is predetermined and the validity period includes at least one of a
20 usable period and a usable time.
4. The method of Claim 3, wherein the agent is provided on each of the web
sites.
- 25 5. A method for accessing at least one of web sites by using an ID and
password whose validity period is predetermined in a system interconnected with an
agent including a database and a database engine, a plurality of users, and said web
sites through a communication network, comprising the steps of:
a) receiving, in the agent, a request for authenticating an ID and password of
30 each user from at least one of said web sites that each user tries to access;
b) retrieving, in the agent, the ID and password from an ID and password
list stored on the database through the database engine;
c) determining, in the agent, whether the retrieved ID and password are
valid;
35 d) providing, in the agent, an authentication result of the ID and password to
the web site requesting the authentication of the ID and password, if the ID and

password are valid; and

e) permitting, in the web site, in response to the authentication, the user access.

5 6. The method of Claim 5, wherein the step d) comprises,
d1) providing data related to the user's ID and password from the agent to
the web site requesting the authentication; and

d2) notifying the authentication denial from the agent to the web site
requesting the authentication, if the user's ID and password are invalid.

10

7. The method of Claim 6, further comprising:

f) receiving, in the agent, periodically report data from the web site that the
user logs in;

15 g) determining, in the agent, whether it is time to invalidate the user's ID
and password based on the report data received;

h) notifying the invalidation of the user's ID and password from the agent to
the user through the web site that the user logs in, if it is time to invalidate the user's
ID and password;

20 i) determining, in the agent, whether the user tries to log-in by using a new
ID and password in response to the invalidation notification through the web site that
the user logs in; and

j) substituting, in the agent, the predetermined validity period of the user's
ID and password by a new validity period of the new ID and password when the user
tries to log-in by using the new ID and password.

25

8. The method of Claim 7, wherein the step j) comprises,

j1) invalidating the use's ID and password and notifying the invalidation
from the agent to the web site that the user logs in, if the user does not try to log-in
by using the new ID and password;

30 j2) resetting, in the agent, the validity period of the invalidated ID and
password to register the same on the ID and password list,

wherein the reset validity period has at least one of a usable period and a
usable time.

35 9. The method of Claim 7, wherein the step j) comprises,

j3) repeating, in the agent, the steps b) to d), if the user tries to log-in by

using the new ID and password.

10. The method of Claim 9, wherein the data related to the user's ID and password is a predetermined usable amount of money and the predetermined usable
5 amount of money is used at the step g) by the agent.

11. The method of Claim 10, wherein the predetermined usable amount of money is increased by a new usable amount of money at the step j) by the agent.

10 12. The method of Claim 11, wherein the agent is provided on each of said web sites.

13. A system for creating an ID and password whose validity period is predetermined, wherein a user accesses a desired web site by using the ID and
15 password, comprising:
an agent for creating the ID and password; and
a communication network for interconnecting with the agent, the user, and the web site,
wherein the agent comprises,
20 a database for storing data related to the ID and password;
a database engine embodied on a computer-readable medium, for classifying, retrieving, and reading the data stored on the database; and
a web server having a processing engine, wherein the processing engine is embodied on a computer-readable medium and processes a user procedure of
25 accessing the web site by using the ID and password.

14. The system of Claim 13, wherein the database comprises,
a first portion for storing data related to connection hours during which the user is accessing the web site;
30 a second portion for storing data related to the ID and password; and
a third portion for storing billing data for the user that is provided by the web site.

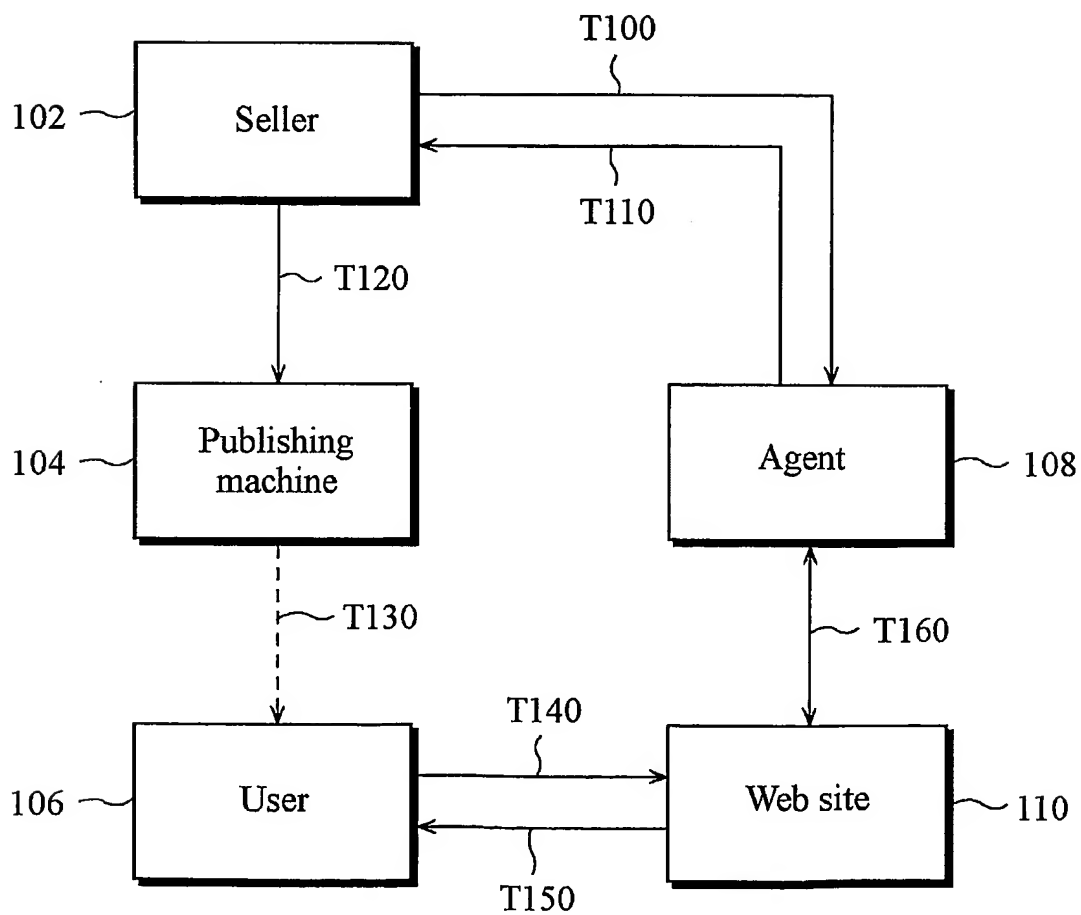
15. The system of Claim 13, wherein the processing engine comprises,
35 a first code segment for retrieving the ID and password used by the user for accessing the web site, from the data stored on the database;

a second code segment for determining whether the retrieved ID and password is valid; and

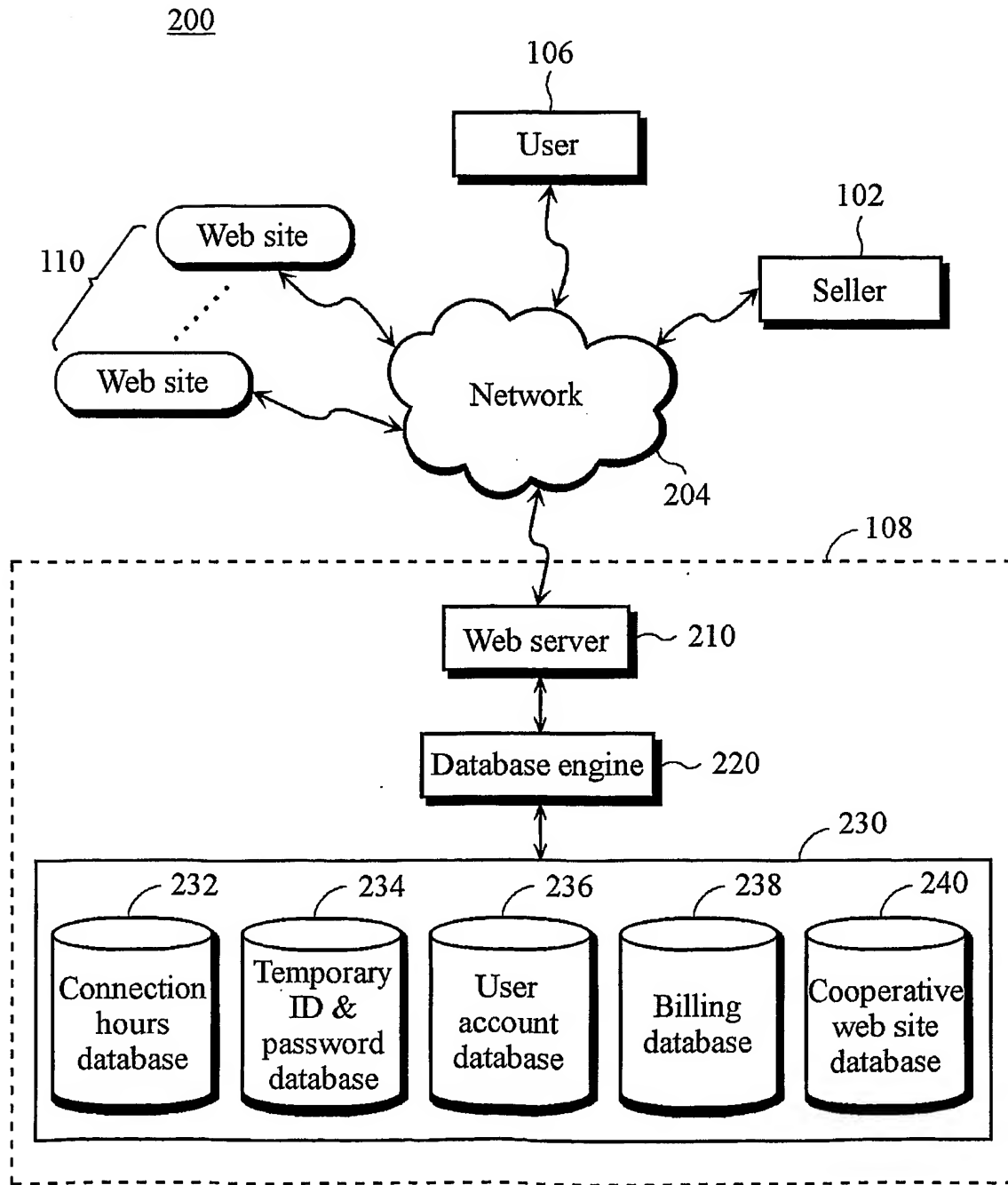
a third code segment for providing an authentication result of the ID and password to the web site requesting the authentication.

5

16. The system of claim 15, wherein the agent is provided on the web site.

Fig. 1

2/5

Fig. 2

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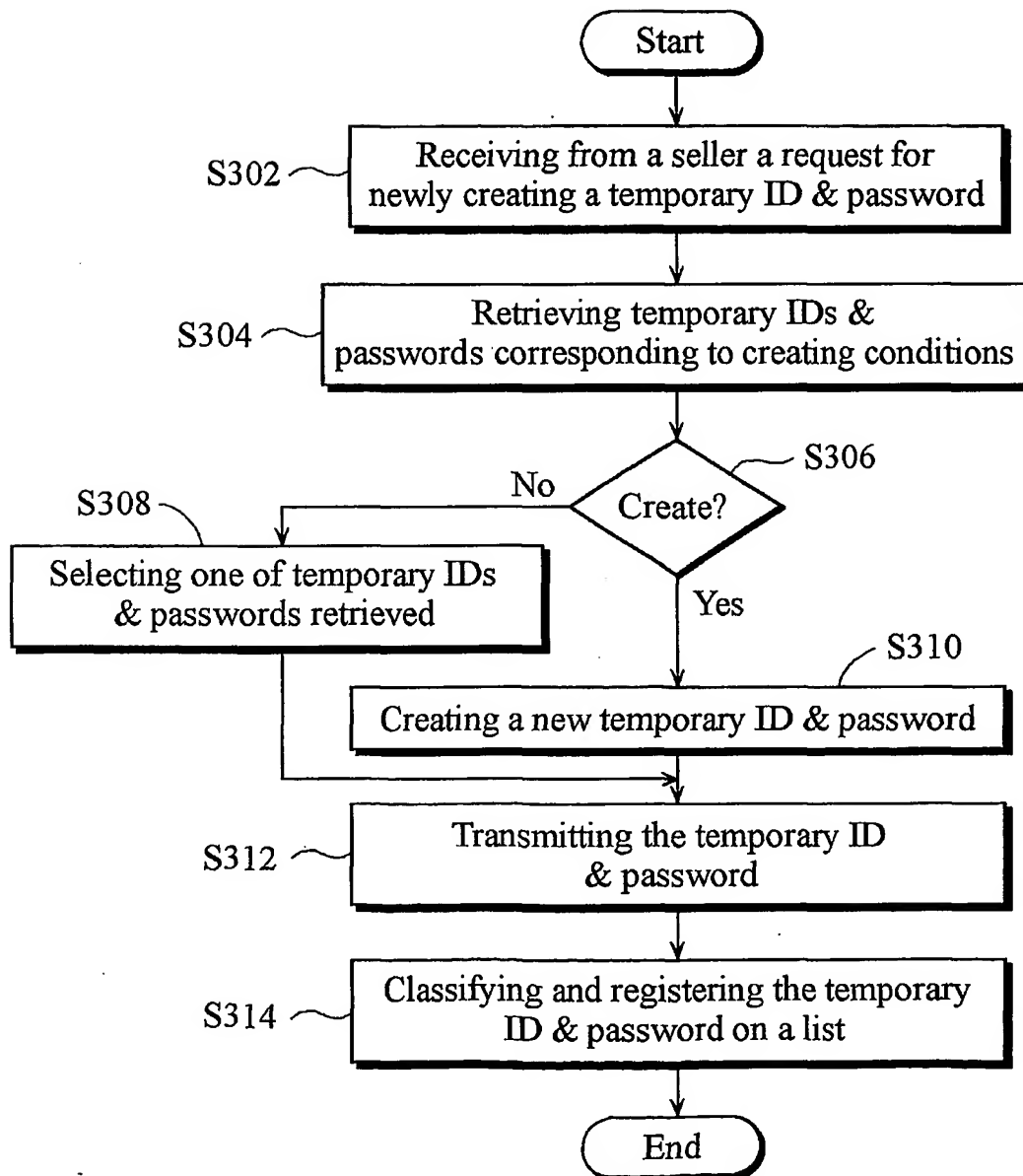
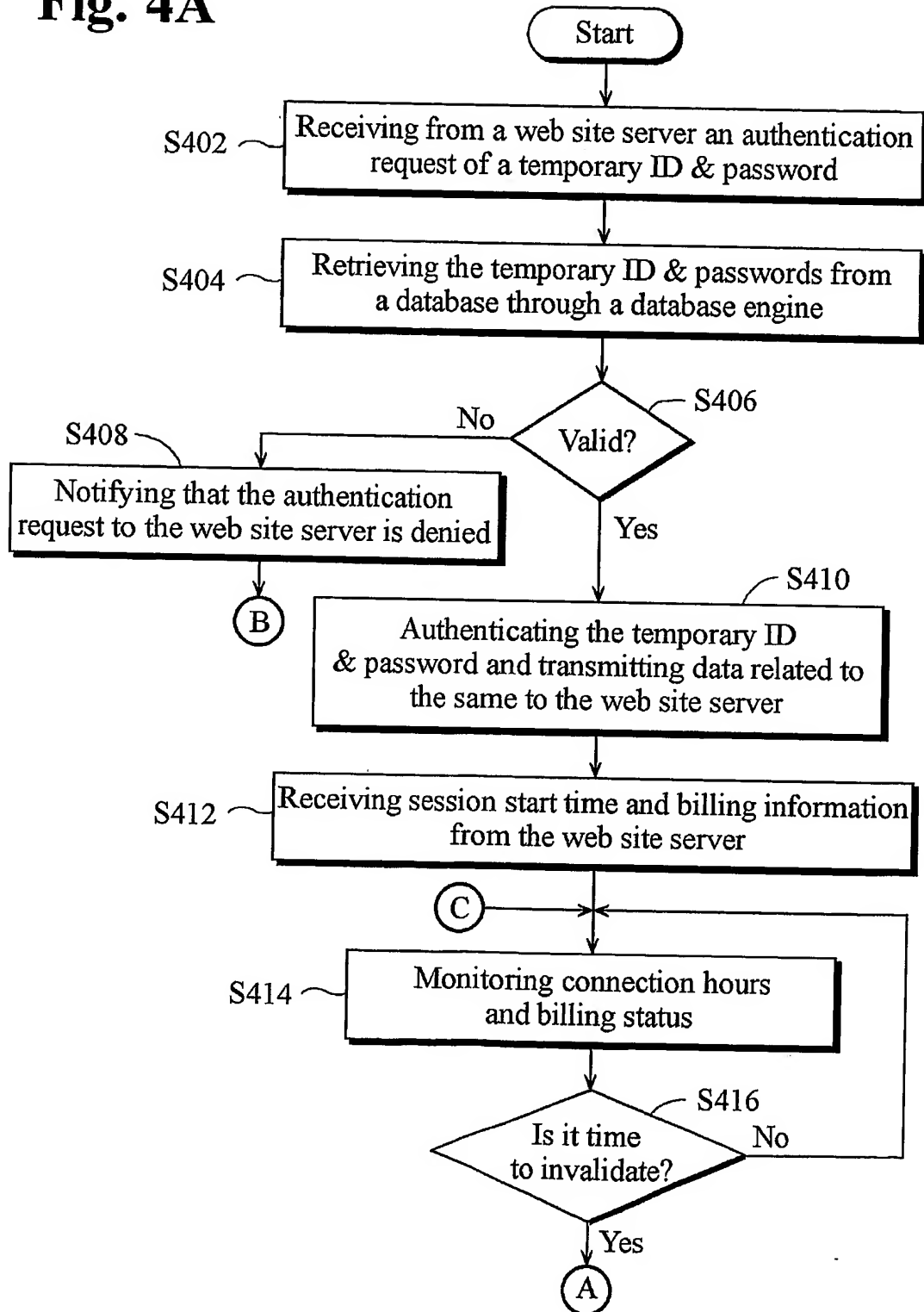
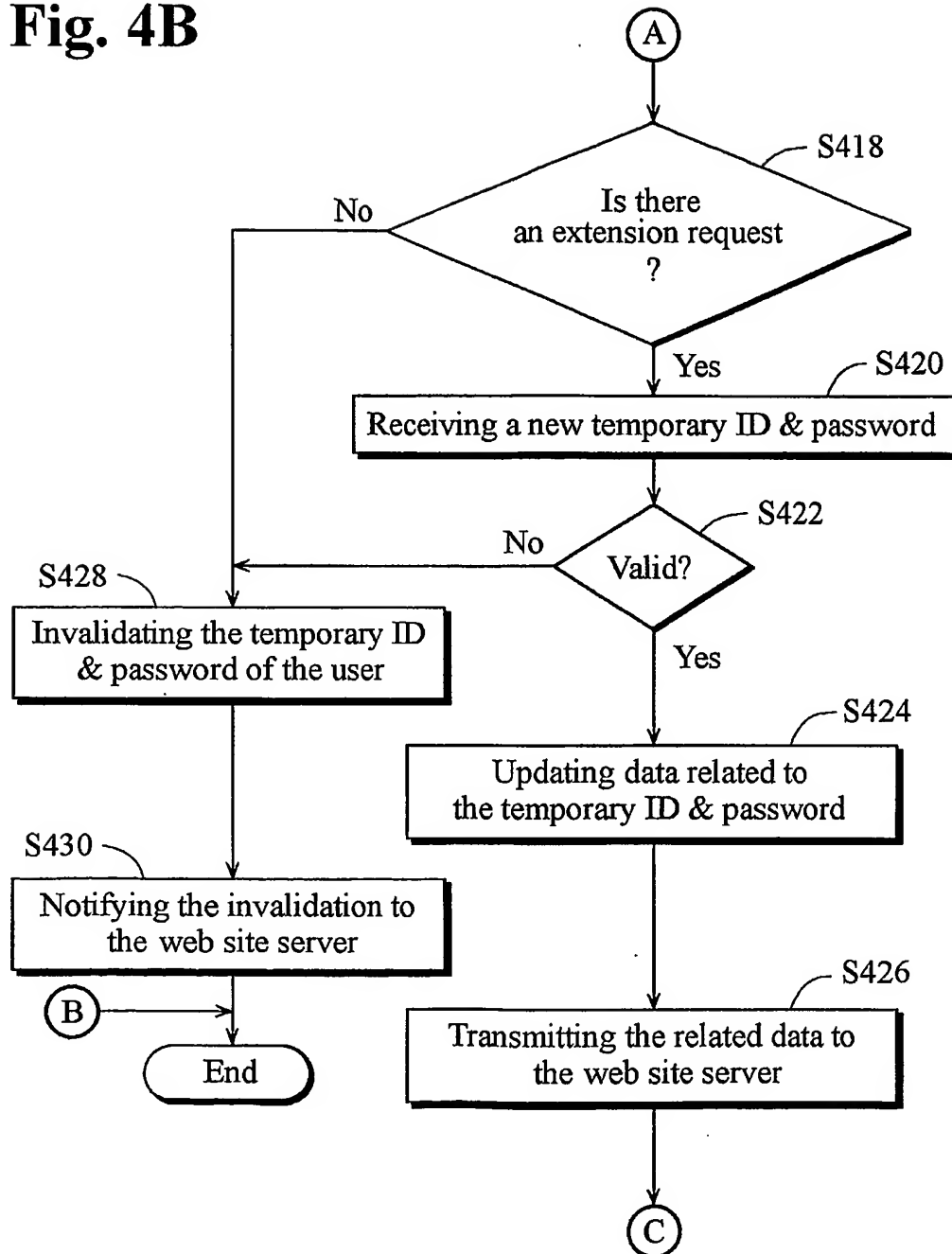
Fig. 3

Fig. 4A


5/5

Fig. 4B

INTERNATIONAL SEARCH REPORT

International application No.

PCT/KR02/00178

A. CLASSIFICATION OF SUBJECT MATTER		
IPC7 G06F 17/00		
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED		
Minimum documentation searched (classification system followed by classification symbols)		
IPC7 G06F15/00, G06F17/00, G06F17/30		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
JP, KR IPC as above		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	KR 10-2001-44667 A (PARK YONGKUK) JUNE.05.2001 See the entire document	1-16
A	KR10-2001-69513 A (KIM KYENO)JULY.25.2001 See the entire document	1-16
A	KR10-2001-69686 A (ASYS INFORMATION TECH. CO.) JULY.25. 2001 See the entire document	1-16
A	KR10-2001-63406 A (INTIZON CO.) JULY.09.2001 See the entire document	1-16
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.		
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Date of the actual completion of the international search		Date of mailing of the international search report
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